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C2 batch

Program – 1:

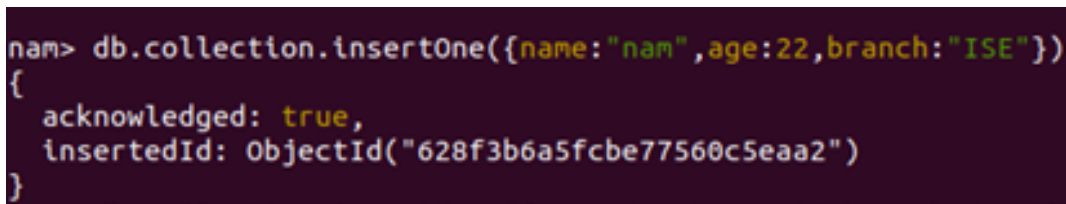
Creating database and collection.

```
test> use nam  
switched to db nam
```

Inserting the values.

- Insert One:


```
nam> db.collection.insertOne({name:"nam",age:22,branch:"ISE"})  
{  
  acknowledged: true,  
  insertedId: ObjectId("628f3b6a5fcbe77560c5eaa2")  
}
```



```
nam> db.collection.insertOne({name:"nam",age:22,branch:"ISE"})  
{  
  acknowledged: true,  
  insertedId: ObjectId("628f3b6a5fcbe77560c5eaa2")  
}
```

- Insert Many:

```
nam>  
db.collection.insertMany([{name:"nam",age:22,branch:"ISE"},{name:"sam",age:23,branch:"CSE"}  
,{name:"ram",age:18,branch:"aero"}])  
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId("628f3c235fcbe77560c5eaa3"),  
    '1': ObjectId("628f3c235fcbe77560c5eaa4"),  
    '2': ObjectId("628f3c235fcbe77560c5eaa5")  
  }  
}
```



```
nam> db.collection.insertMany({name:"nam",age:22,branch:"ISE"},{name:"sam",age:23,branch:"CSE"},{name:"ram",age:18,branch:"aero"})  
MongoInvalidArgumentError: Argument "docs" must be an array of documents  
nam> db.collection.insertMany([{name:"nam",age:22,branch:"ISE"},{name:"sam",age:23,branch:"CSE"},{name:"ram",age:18,branch:"aero"}])  
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId("628f3c235fcbe77560c5eaa3"),  
    '1': ObjectId("628f3c235fcbe77560c5eaa4"),  
    '2': ObjectId("628f3c235fcbe77560c5eaa5")  
  }  
}
```

Find operation

```
nam> db.collection.find({name:"ram"})
[
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 18,
    branch: 'aero'
  }
]
```

```
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 18,
    branch: 'aero'
  }
]
```

```

nam> db.collection.find({name:"ram"})
[
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 18,
    branch: 'aero'
  }
]
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',

```

```

mongosh mongodb://
},
{
  _id: ObjectId("628f3c235fcbe77560c5eaa3"),
  name: 'nam',
  age: 22,
  branch: 'ISE'
},
{
  _id: ObjectId("628f3c235fcbe77560c5eaa4"),
  name: 'sam',
  age: 23,
  branch: 'CSE'
},
{
  _id: ObjectId("628f3c235fcbe77560c5eaa5"),
  name: 'ram',
  age: 18,
  branch: 'aero'
}
]

```

Update Operation

```

nam> db.collection.updateOne({name:"ram"},{$set:{age:27}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,

```

```
upsertedCount: 0
}
```

```
nam> db.collection.find({})
```

```
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 27,
    branch: 'aero'
  }
]
```

```
nam> db.collection.updateOne({name:"ram"},{$set:{age:27}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 27,
    branch: 'aero'
  }
]
```

```
Activities Terminal
mongosh mongodb://127.0.0.1:27017/3
  branch: 'aero'
}
]
nam> db.collection.updateOne({name:"ran"},{$set:{age:27}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ran',
    age: 27,
    branch: 'aero'
  }
]
```

Update Many Operation

```
nam> db.collection.updateMany({},{$set:{branch:"ISE"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 4,
  modifiedCount: 2,
  upsertedCount: 0
}
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'CSE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ran',
    age: 27,
    branch: 'aero'
  }
]
```

```

    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 27,
    branch: 'ISE'
  }
]

```

```

nam> db.collection.updateMany({},{$set:{branch:"ISE"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 4,
  modifiedCount: 2,
  upsertedCount: 0
}
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 27,
    branch: 'ISE'
  }
]

```

```

mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=30000
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa5"),
    name: 'ram',
    age: 27,
    branch: 'ISE'
  }
]

```

Delete Operation

```
nam> db.collection.deleteOne({name:"ram"})
{ acknowledged: true, deletedCount: 1 }
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'ISE'
  }
]
```



```
nam> db.collection.deleteOne({name:"ram"})
{ acknowledged: true, deletedCount: 1 }
nam> db.collection.find({})
[
  {
    _id: ObjectId("628f3b6a5fcbe77560c5eaa2"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa3"),
    name: 'nam',
    age: 22,
    branch: 'ISE'
  },
  {
    _id: ObjectId("628f3c235fcbe77560c5eaa4"),
    name: 'sam',
    age: 23,
    branch: 'ISE'
  }
]
```

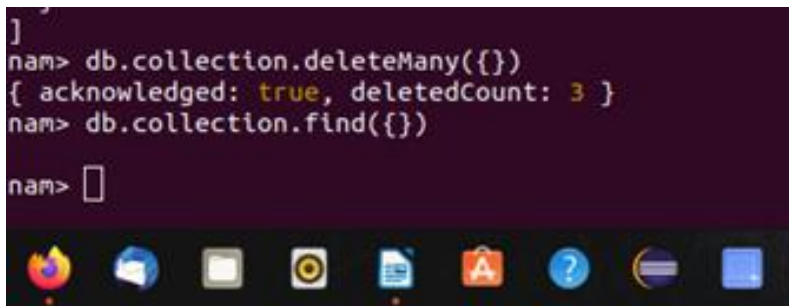
Delete Many Operation

```
nam> db.collection.deleteMany({})
{ acknowledged: true, deletedCount: 3 }
nam> db.collection.find({})
```

nam>

```
]
nam> db.collection.deleteMany({})
{ acknowledged: true, deletedCount: 3 }
nam> db.collection.find({})

nam> []
```

A terminal window with a dark background. The text shows a MongoDB shell session. The first command is 'nam> db.collection.deleteMany({})' which returns '{ acknowledged: true, deletedCount: 3 }'. The second command is 'nam> db.collection.find({})' which returns an empty array '[]'. Below the terminal window is a taskbar with several application icons including Firefox, a messaging app, a file manager, a terminal, a document, a shopping bag, a question mark, a globe, and a blue square icon.

Aggregate Operations:

Sort

```
nam> db.collection.aggregate([{'$sort': { size: 1 }}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaae"),
    item: 'mousepad',
    qty: 25,
    tags: 'gel',
    size: 19,
    uom: 'inches'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaad"),
    item: 'mat',
    qty: 85,
    tags: 'gray',
    size: 20,
    uom: 'cm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  }
]
```



```
}  
]
```

```
nam> db.collection.aggregate([{$sort: {size: 1}}])  
[  
  {  
    _id: ObjectId("628f48f35fcbe77560c5eaae"),  
    item: 'mousepad',  
    qty: 25,  
    tags: 'gel',  
    size: 19,  
    uom: 'inches'  
  },  
  {  
    _id: ObjectId("628f48f35fcbe77560c5eaad"),  
    item: 'mat',  
    qty: 85,  
    tags: 'gray',  
    size: 20,  
    uom: 'cm'  
  },  
  {  
    _id: ObjectId("628f48f35fcbe77560c5eaac"),  
    item: 'journal',  
    qty: 25,  
    tags: 'red',  
    size: 21,  
    uom: 'm'  }  
]
```

```
mongosh mongodb:  
size: 20,  
uom: 'cm'  
},  
{  
  _id: ObjectId("628f48f35fcbe77560c5eaac"),  
  item: 'journal',  
  qty: 25,  
  tags: 'red',  
  size: 21,  
  uom: 'm'  
}  
]
```

```
nam> db.collection.aggregate([{$match: {size: {$gt: 20}}}])
```

```
[  
  {  
    _id: ObjectId("628f48f35fcbe77560c5eaac"),  
    item: 'journal',  
    qty: 25,  
    tags: 'red',  
    size: 21,  
    uom: 'm'  
  }  
]
```

```
nam> db.collection.aggregate([{$match: {size: {$gt: 19}}}])
```

```
[  
  {  
    _id: ObjectId("628f48f35fcbe77560c5eaac"),  
    item: 'journal',  
    qty: 25,  
    tags: 'red',  
    size: 21,  
    uom: 'm'  
  }  
]
```

```

    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaad"),
    item: 'mat',
    qty: 85,
    tags: 'gray',
    size: 20,
    uom: 'cm'
  }
]

```

```

nam> db.collection.aggregate([{$match:{size:{$gt:20}}}])

nam> db.collection.aggregate([{$match:{size:{$gt:20}}}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  }
]
nam> db.collection.aggregate([{$match:{size:{$gt:19}}}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',

```

```

mongosh mongodb://127.0.0.1:27020
> use test
test> db.collection.aggregate([{$match:{size:{$gt:19}}}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaad"),
    item: 'mat',
    qty: 85,
    tags: 'gray',
    size: 20,
    uom: 'cm'
  }
]

```

```

nam> db.students.aggregate([{$unwind:"$tags"}])

nam> db.collection.aggregate([{$unwind:"$tags"}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaad"),
    item: 'mat',
    qty: 85,
    tags: 'gray',
    size: 20,
    uom: 'cm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaae"),
    item: 'mousepad',
    qty: 25,
    tags: 'gel',
    size: 19,
    uom: 'inches'
  }
]

```



```

mongosh mongodb://127.0.0.1:
]
nam> db.students.aggregate([{$unwind:"$tags"}])
nam> db.collection.aggregate([{$unwind:"$tags"}])
[
  {
    _id: ObjectId("628f48f35fcbe77560c5eaac"),
    item: 'journal',
    qty: 25,
    tags: 'red',
    size: 21,
    uom: 'm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaad"),
    item: 'mat',
    qty: 85,
    tags: 'gray',
    size: 20,
    uom: 'cm'
  },
  {
    _id: ObjectId("628f48f35fcbe77560c5eaae"),
    item: 'mousepad',
    qty: 25,
    tags: 'gel',
    size: 19,
    uom: 'inches'
  }
]

```